



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

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NATIONAL SECURITY AND
INTERNATIONAL AFFAIRS DIVISION

B-212292

AUGUST 5, 1983

The Honorable David L. Boren
United States Senate

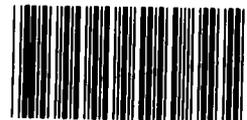
Dear Senator Boren:

Subject: Allegations Concerning The Construction and
Acceptance of the Gymnasium at Grafenwoehr,
West Germany (GAO/NSIAD-83-15)

In response to your request of November 1, 1982, we have examined selected aspects of the construction and the Army's acceptance of a gymnasium at Grafenwoehr, West Germany. The gymnasium and other recreational facilities were completed in November 1981 and cost approximately \$3.2 million. You expressed concern that the Army may have paid for construction that did not meet contract specifications and that the Army may have accepted the facility without a proper inspection. In addition, you asked us to determine if the following problems cited by your constituent have merit:

- Shoddy workmanship and a rumor that the Army was forced to accept the gymnasium because the contractor refused to make repairs.
- Racquetball courts were unacceptable because the court walls were breaking apart after only 1 month of play and a 1/2-inch gap existed between the floor and walls.
- Wall lockers were flimsy and not secure.
- Money from locker rental fees (\$2.00 a month) was being used to replace the lockers and racquetball court walls.

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We examined related correspondence, inspection reports, contract specifications, Army regulations, and other available records. In addition, we made an onsite inspection of the gymnasium, and we interviewed Army officials at the U.S. military community in Grafenwoehr and at the Army Corps of Engineers, European Division (EUD) in Frankfurt, West Germany. We found:

- The Army accepted the gymnasium on the date of its final inspection, subject to the correction of any contractor deficiencies.
- Deficiencies cited by your constituent as well as other unacceptable conditions identified by Army officials did exist. However, the contractor corrected most of the deficiencies and extended the warranty on other work when it could not be determined if it was in accordance with the contract specifications.
- The original lockers met the contract specifications and were used for a short time. Subsequently, Army officials agreed that the lockers were too small and did not provide adequate security, and they were replaced at Government expense. Army officials could not explain why the locker inadequacies were not identified during the design of the building.
- Locker rental fees are authorized by Army regulations and are used to support the local Morale Support Fund.

Additional details on the construction and the Army's acceptance of the Grafenwoehr gymnasium and your constituent's concerns follow.

THE DESIGN AND CONSTRUCTION
PROCESS IN GERMANY

EUD is the design and construction agent responsible for all Department of Defense construction projects in Germany. The design process generally consists of converting facility requirements into detailed drawings and specifications necessary for the construction of a facility. Under an agreement between the United States and Germany, the design agent decides whether the project design will be performed by an architect-engineering firm, by the host Government agency, or by in-house capabilities. Once a project is designed and approved by the German

Government, EUD normally awards an indirect construction contract to a German Government contracting agency. The contracting agency develops and awards a construction contract to a local contractor and supervises the construction to insure that contract specifications are met. Army engineers can inspect the construction work as it progresses, but all irregularities are discussed with the contracting agency rather than the contractor.

CONSTRUCTION AND ACCEPTANCE
OF THE GRAFENWOEHR GYMNASIUM

In fiscal year 1980, the Congress approved about \$3 million for the construction of a gymnasium and other recreational facilities at Grafenwoehr. The gymnasium was designed by a German architectural firm using EUD criteria. Army officials from both Grafenwoehr and EUD were involved in the preliminary identification of the functional and technical requirements of the gymnasium. These officials were also involved in periodic design and construction reviews to insure that requirements were being met.

On November 2, 1981, after a joint final inspection by officials from the German contracting agency and Army officials from EUD and Grafenwoehr, the gymnasium was officially accepted by the U.S. Government, subject to the correction of contractor deficiencies. Deficiencies identified by your constituent as well as other problems were documented by Army officials during the final inspection. Army officials from Grafenwoehr found in part that (1) the retractable basketball backboards moved excessively during play, (2) the basketball floor did not have a uniform flat surface, and (3) the racquetball courts had numerous problems, including walls were cracking, light fixtures and door hardware were not flush, and expansion joints around the wall and ceiling exceeded the allowable tolerance. The opening of the gymnasium was delayed until February 1982 when the major concerns of the Grafenwoehr officials had been investigated by EUD and an agreement reached as to how the matters would be resolved.

Basketball backboards and floor

The basketball backboards were modified at the contractor's expense to eliminate the excessive movement during play. According to an EUD architect, the supporting structures holding the backboards met the original specifications in that they were not required to be absolutely rigid when the backboards were in place.

A solution to the unsatisfactory appearance and to the apparent unevenness of the gymnasium floor was of great concern to Grafenwoehr officials. In July 1982, after the floor had settled, Grafenwoehr officials employed an independent German consulting firm to determine if the floor met contract specifications. The firm's tests showed that the floor surface met the specifications for uniform flatness and proper ball movement. However, no tests could be conducted on the gymnasium floor subsurface without tearing out and replacing sections of the floor at considerable expense. As a compromise, EUD and the German contracting agency agreed to extend the contractor's warranty on the floor from 2 to 5 years at no additional cost to the Government.

Army officials could not readily determine the cause of the differences between what the user expected the floor surface to look like and how it actually appeared, since such differences are subjective and difficult to measure. However, Grafenwoehr officials have proposed refinishing the gymnasium floor to enhance its appearance. In addition, EUD has developed new specifications for the future design of all wood gymnasium floors.

Racquetball courts

According to Army officials, the original courts were designed for handball and could not withstand the greater stress of racquetball. This accounted for the wall deterioration as cited by your constituent. EUD modified the original contract at a cost of about \$112,000 to provide for walls, ceilings, and fixtures that meet racquetball standards. When the walls and ceilings were replaced, the gap along the floor of the court, as cited by your constituent, was eliminated.

In February 1979, the Army Chief of Engineers issued guidance on the material to be used in handball or racquetball courts and also stated that all fixtures should be flush with the playing surface. The guidance called for the changes to be made immediately even on projects already under construction, unless funds were not available or occupancy would be delayed.

The design of the Grafenwoehr courts was completed in November 1979 and did not meet this criteria. EUD officials could not explain why the February 1979 guidance was not incorporated into the design of the Grafenwoehr courts. EUD has since established a policy that only complete court systems, designed specifically for racquetball, will be used in its future projects.

Lockers

At the time of the final inspection, Army officials from Grafenwoehr noted that the lockers had poor quality locks and an undesirable key lock system. However, the lockers met contract specifications and were used for a short time when the gymnasium first opened. While in use, Army officials became aware that the small size of the lockers was also a problem because troops could not fit their boots, clothing, and other equipment in the the lockers. Based on the number and type of problems, similar to those described by your constituent, EUD agreed to replace all the lockers. A contract modification for approximately \$49,000 was issued to provide for larger and more secure lockers.

According to EUD officials, the Army provides only general design guidance on locker selection. The lockers specified for the Grafenwoehr gymnasium were those commonly used in middle or high schools. However, school lockers are only one-fifth the size of a full-size locker and are too small to accommodate a soldier's clothing and equipment. We were unable to determine why EUD or Grafenwoehr officials did not identify this deficiency during the design review process. EUD has since developed a policy for the type of locking system to be used on gymnasium lockers.

Locker rentals

Lockers are being rented for \$2.00 a month and such fees are authorized by Army regulations. According to an Army official, locker user fees are used to support the Morale Support Fund. In addition, the fee helps to keep lockers available for everyone's use by discouraging casual users from unnecessarily tying up lockers for an indefinite period of time.

At the time of our visit to Grafenwoehr, Army officials had designated 358 of the 448 lockers for rental. However, gymnasium users said that, and our personal inspection of the locker room during a peak usage period confirmed, some of 90 non-fee lockers were usually available.

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As agreed, we did not request agency comments concerning this report. However, we did discuss the report with Army officials in Europe and they generally agreed with the report contents.

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We hope that this report answers your questions and provides the information you need to respond to your constituent's concerns. If we can be of further assistance in this matter, please let us know.

Sincerely yours,

A handwritten signature in cursive script that reads "Frank C. Conahan". The signature is written in dark ink and is positioned above the typed name.

Frank C. Conahan
Director